

Negative Pressure Isolation Room Design Checklist

For Negative Pressure Isolation Rooms

Revised: December 15, 1997

Notes:

1. This is only a summary of Code requirements, focusing primarily on Mechanical Code requirements. **Refer to the California Building Codes (CBC, CEC, CMC, CPC) for complete requirements.**
2. Voluntary PIN 4 upgrades will be reviewed upon written request for Program Flexibility as alternate methods of construction, and should therefore comply with as many of the Code requirements as possible. Rooms not complying fully with Code requirements cannot be renamed as "Negative Pressure Isolation Rooms"

1. Room Identification:

- ☐ Fully complying rooms:
Negative Pressure Isolation Rooms shall be clearly identified as such on plans.
- ☐ Existing Isolation Rooms lawfully constructed prior to 10/26/93 and being voluntarily upgraded:

The room title "Isolation Room" is no longer a valid room name for new construction; however, existing legally constructed "Isolation" Rooms are "Grandfathered". Unless fully upgraded to complying conditions, the room name cannot be changed. [PIN 4]

- ☐ Existing Patient Rooms being voluntarily upgraded:
Existing room names cannot be changed. Names such as "Negative Pressure Patient Room" or other such descriptions are not recognized room identifications; e.g. an existing patient room that is upgraded, shall still be identified as a "Patient Room" unless it fully complies with Code requirements for Negative Pressure Isolation Rooms. [PIN 4]

2. Architectural Requirements:

- ☐ Single patient bedroom, 110 sq. ft. minimum. [CBC 420A.14.1]
- ☐ Location of head of bed must be shown on plan.
- ☐ Anteroom with work counter, cabinets, and handwashing fixture. [CBC 420A.14.6.1, CPC Table C-2]
- ☐ Door between anteroom and N.P. isolation room shall have view window and means for transferring air from anteroom to N.P. isolation room. [CBC 420A.14.6.1, CMC Table 4-A, Note 4]
- ☐ Anteroom doors aligned to permit movement of large equipment thru anteroom. [CBC 420A.14.6.1]
- ☐ Secondary entry (if provided) shall be furnished with an approved gasket to provide a seal at the bottom of the door. [CBC 420A.14.6.2]
- ☐ Adjoining toilet room accessible directly from the N.P. isolation room without requiring passage through the anteroom or other spaces. [CBC 420A.14.6.3]
- ☐ Toilet room shall include emergency nurse call system, lavatory, toilet with bedpan washer, shower with seat or space for a shower chair. [CBC 420A.14.6.3, CPC Table C-2]

3. Exhaust / Grille Location:

- ☐ The low exhaust in negative pressure isolation rooms must be located in such a way as to minimize chances health care worker getting between the infectious source (the patient's head) and the exhaust. Normally the grille must be on the wall at the head of the bed. [CMC 412.3]
- ☐ Dedicated exhaust system on emergency power. [CMC 331.4 and 412.2]
- ☐ All air from rooms for the isolation of TB patients shall be exhausted and shall not be returned to general hospital ventilation. [CMC Table 4-A]

4. Directional Airflow:

- ☐ Design for air flow supply at or near the ceiling, near the entrance of the room, across the infectious source (the patient's head) and on to the low exhaust. Airflow pattern shall prevent

stagnant areas and eliminate short circuiting of the supply to the exhaust. [CMC 412.3]

- ☐ Check for fixed obstructions (such as casework) that could potentially obstruct or interfere with directional airflow.

5. Air Balance and Ventilation:

- ☐ Anteroom shall have positive pressure and not less than 10 air changes. [CMC Table 4-A]
- ☐ The patient room should be negative on it's own without taking toilet exhaust into consideration. [CMC Table 4-A, Note 4]
- ☐ Not less than 75 cfm differential between anteroom and patient room. [CMC Table 4-A, Note 4]
- ☐ Provide not less than 12 air changes in N.P. isolation room. [CMC Table 4-A] *Note: Table 4-A will be revised based on CDC recommendations, and Cal-OSHA requirement for 12 air changes.*
- ☐ Recirculation of air within room is prohibited (all air shall be exhausted). [CMC Table 4-A]

6. Alarms:

- ☐ Alarm system shall be provided. One alarm display monitor shall be located just outside the entrance to the room (on corridor wall). A second audible and visual alarm shall be located at or near the nurse station or other suitable location that will provide responsible surveillance. [CMC 414.1]
- ☐ Alarms shall be on Life Safety Branch. [CEC 517-32(c)]

7. Duct Identification:

- ☐ Exhaust ducts and fans serving negative pressure isolation rooms shall be clearly labeled and identified per CMC 412.2.

8. Exhaust termination:

- ☐ The exhaust shall terminate above roof level either through an accessible HEPA filter (99.97% efficient, bag in/bag out, upstream of the exhaust fan) or vertically thru a self-draining (or equivalent) stack discharging not less than 7 feet above the roof (rain caps prohibited). [CMC 412.2]
- ☐ Check clearances (25' min.) between the exhaust termination and areas that may be occupied, outdoor intakes, doors, windows, etc. [CMC 412.2]
- ☐ Check for exterior obstructions that could create eddy currents resulting in recirculation of exhaust back into the building. [CMC 412.2]

9. Testing, Adjusting and Balancing (TAB):

- ☐ TAB (including alarms) by a qualified, independent, certified agency prior to acceptance. [CMC 415]
- ☐ An integrated (room-by-room) air balance report (or summary sheet) listing design and actual supply, exhaust and return quantities for each room (all on the same sheet) is recommended to facilitate verification of proper air balance.